



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/634,171	08/09/2000	Emanuel Israel Cooper	13521(ARC9-2000-0067-US1)	5758

7590 04/04/2006

Marvin Bressler
Scully Scott Murphy & Presser
400 Garden City Plaza
Garden City, NY 11530

EXAMINER

SHEEHAN, JOHN P

ART UNIT	PAPER NUMBER
----------	--------------

1742

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/634,171
Filing Date: August 09, 2000
Appellant(s): COOPER ET AL.

Leslie S. Szivos
For Appellant

EXAMINER'S ANSWER

MAILED

APR 04 2006

GROUP 1700

This is in response to the appeal brief filed January 13, 2006 appealing from the Office action mailed August 4, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellants' statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: The rejection set forth in the final rejection is also dependent on the admitted know prior art set forth in the specification at page 2, lines 25 to 27.

In the Final Rejection claims 1, 3 to 10 and 28 to 30 were rejected under 35 USC §103 as obvious over Kakuno et al. (Kakuno, cited in the IDS submitted by the applicants on October 24, 2000) taken in view of **the admitted known prior art disclosed on page 2, lines 25 to 27 of the applicants' specification** and Mallary (US

Patent No. 4,695,351) (bold type highlights the basis of the rejection not stated in the appellants' Brief).

However, in their Appeal Brief, appellants have stated that;

The issue presented for review, on appeal, is whether Claims 1, 3-10 and 28-30 are unpatentable under 35 U.S.C. §103(a) over the article to Kakuno, et al. in view of U.S. Patent No.4,695,351 to M.L. Mallery.

Applicants' statement of the grounds of the rejection does not reflect the Examiner's dependence in the Final Rejection on the admitted known prior art set forth in the applicants' specification at page 2, lines 25 to 27.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Kakuno et al., "Structure, Composition, and Morphology of Electrodeposited $\text{Co}_x\text{Fe}_{1-x}$ Alloys" Journal Electrochemical Society, Vol. 144, No. 9, September 1997, pages 3222-3226.

4,695,351

Mallery

9-1987

The admitted known prior art disclosed in the appellants' specification at page 2, lines 25 to 27.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejection - 35 USC § 103

Claims 1, 3 to 10 and 28 to 30 stand rejected under 35 U.S.C. 103(a) as obvious over Kakuno et al. (Kakuno, cited in the IDS submitted by the applicants on October 24, 2000) taken in view of the admitted known prior art disclosed on page 2, lines 25 to 27 of the applicants' specification and Mallary (US Patent No. 4,695,351, newly cited on the PTO Form-892 attached to this Office action).

Kakuno teaches specific examples alloys having compositions that are encompassed by the alloy composition recited in the instant claims (see Kakuno, page 3223, Figures 1 and 2; page 3224 Figure 3 and Table 1, Alloys 7 to 9). Kakuno teaches that these alloys have a very shiny surface (page 3223, left column, line 10) which is considered to be the same as the "substantially smooth bright surface" recited in claim 30 (line 3). Kakuno teaches that these alloys are made by electroplating to a thickness of 0.3 μm (page 3222, right column, under the heading, "Experimental ", the first paragraph) which thickness is encompassed by all of appellants' claims, particularly claims 28 and 30. Electroplating is the same process disclosed by applicants to make the instantly claimed alloy film. Further, Kakuno teaches electroplating using a current density of 10 to 50 mA/cm^2 (page 3223, left column, lines 1 to 5) which overlaps applicants' disclosed current density of 3 to 40 mA/cm^2 and applicants' preferred current density of 5 to 30 mA/cm^2 and completely encompasses applicants' most preferred

current density of 10 to 20 mA/cm² (see instant specification, page 15, lines 25 to 32). Thus, Kakuno's alloys have compositions that are encompassed by the instant claims and are made by electroplating employing the same process conditions as applicants' disclosed method of making the claimed alloy films.

The claims and Kakuno differ in that Kakuno does not teach the following properties recited in the applicants' claims;

“anisotropic” and

“having a saturation magnetization of 2.3 Tesla or greater” and

In the specification at page 2, lines 25 to 27 it is disclosed that it is known that it is essential that a Co-Fe film be anisotropic in order to be used in a magnetic head.

Mallory teaches that it is known to induce magnetic anisotropy in electro-deposited magnetic films by electrodepositing the film in a magnetic field (Abstract and column 2, line 65 to column 3, line 3 and column 3, lines 20 to 30).

One of ordinary skill in the art at the time the invention, knowing that it is essential that a Co-Fe film be anisotropic in order to be used in a magnetic head (as disclosed in the applicants' specification, page 2, lines 25 to 27) would have been motivated to apply a magnetic field to Kakuno's electro-deposition process so as to induce the required anisotropy in the Co-Fe alloy film as taught by Mallory. Further, in view of the fact, that Kakuno's specific example alloys have compositions that are encompassed by the instant claims and are made by electroplating just as applicants' claimed alloys, using current densities that encompass applicants' preferred current densities, Kakuno's alloys would be expected to possess all the same properties as

Art Unit: 1742

recited in the instant claims, including the impurity level recited in claim 31, In re Best, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." (emphasis added by the Examiner) see MPEP2112.01.

(10) Response to Argument

Appellants', listing differences in the electroplating process used to produce Kakuno's product and the electroplating process used to make the instantly claimed product (Brief, pages 6 and 7), argue that Kakuno's alloys are produced by a electroplating process that is substantially different from the electroplating process used to produce the instantly claimed alloys and that it is well known in the art that different electroplating conditions cause different morphology, crystallinity and properties in the electroplated film. The Examiner is not persuaded. It should be emphasized here that appellants' claims are not directed to a process nor are appellants' claims drafted in product by process format. Instead, appellants' claims are directed to a cobalt-iron binary alloy. The Examiner will not argue the point that that it is well known in the art that different electroplating conditions can, but not necessarily, cause different morphology, crystallinity and properties in the electroplated film. However, as will be discussed below, even, if for the sake of discussion, the applicants' process and

Kakuno's process are different, appellants have not provided adequate evidence to support their position that their claimed product made in accordance with their disclosed process is in fact different than Kakuno's product.

Appellants argue that the process used to make the instantly claimed product reduces the oxygen level in the film product while in Kakuno's process oxygen continues to dissolve in the plating solution and is incorporated in the film product. Appellants' then state that it is well known in the art that the higher oxygen content in CoFe alloy drastically reduces the magnetic moment of the CoFe alloy. The Examiner is not persuaded. Applicants have not cited any evidence to support their statement that the process used to make the instantly claimed product reduces the oxygen level in the film product while in Kakuno's process oxygen continues to dissolve in the plating solution and is incorporated in the film product nor have appellants provide any support for their statement that it is well known in the art that the higher oxygen content in CoFe alloy drastically reduces the magnetic moment of the CoFe alloy. Thus, appellants' arguments based on these unsupported statements are not persuasive.

In an attempt to support their position appellants' submitted a declaration under 37 C.F.R. §1.132 by Hong Xu in their response submitted June 10, 2004. At that time the Examiner stated that the declaration was defective for various reasons including the fact that the exhibits attached to and discussed in the declaration were not labeled making it impossible to know which exhibit appellants were discussing. The Examiner also pointed out that the curves regarding Electron Spectroscopy for Chemical Analysis (ESCA) profiles were all solid black lines and thus indistinguishable from each other.

In response to the Examiner's comments applicants submitted an unsigned copy of the declaration and stated that it is "a true copy of the original 37 C.F.R. §1.132 Declaration of Hong Xu dated June 10, 2004" (applicants' response submitted May 19, 2005, page 6, lines 3 and 4). In view of this statement by applicants' attorney, the Examiner accepted the unsigned declaration submitted May 19, 2005 for consideration and indicated that this new copy of the declaration overcame the Examiner's comments regarding exhibit labeling and the ESCA profiles.

The declaration under 37 CFR 1.132 filed May 19, 2005 is insufficient to overcome the rejection of claims 1, 3 to 10 and 28 to 30 as set forth in the last Office action because:

I. In section 9 of the declaration beginning at line 14 on page 9 of the declaration, applicants state that Kakuno's alloy was very brittle after annealing which indicates a high impurity level while applicants' alloy is still in tact after annealing. Applicants' appear to be implying that their claimed alloy would thus have less impurities. This is not persuasive. It is not clear that Kakuno's alloy and the inventive alloy were annealed at the same temperature, so whether an alloy is "intact" or "very brittle" is not necessarily a function of the impurity level but rather could also be a function of the annealing temperature. There are no objective measurements of the brittleness or impurity levels of the alloy films. Without objective measurements a comparison of the 2 alloys is virtually meaningless. In this section of the declaration applicants' have based their discussion on an inventive alloy containing 64% Fe and a Kakuno alloy

containing 64 wt% Fe. In appellants' discussion of Kakuno's alloy containing 64% Fe applicants also refer to Kakuno's Figure 5 (submitted as Exhibit 2) as showing cracks, however, the alloy in Kakuno's Figure 5 (submitted as Exhibit 2) does not contain 64 % Fe but rather the alloy in Kakuno's Figure 5 (submitted as Exhibit 2), contains only 30% Fe. In view of the fact that the alloy in Kakuno's Figure 5 (submitted as Exhibit 2) contains only 30% Fe, it is the Examiner's position that the appellants cannot rely on Kakuno's Figure 5 (submitted as Exhibit 2) as depicting the properties of a Kakuno alloy containing 64%Fe. Thus, the inclusion of Kakuno's Figure 5 (submitted as Exhibit 2) depicting an alloy containing 30% Fe in this section of the declaration discussing Kakuno's alloy containing 64% Fe is not proper. Applicants also refer to Exhibit 3 as demonstrating the appellants' claimed alloy containing no cracks, however, the alloy in Exhibit 3 contains 73.123% Fe. Thus, the inclusion of Exhibit 3, directed to an alloy containing 72.123% Fe, in this section of the declaration discussing alloys containing 64% Fe is not proper. Further, a comparison of Exhibits 2 and 3 to each other is not a proper comparison in that:

- i. Each of Exhibit 2 (72.123% Fe) and Exhibit 3 (64% Fe) depicts an alloy containing a different amount of Fe.
- ii. There is no indication as to how the alloy in Exhibit 3 (72.123% Fe) was prepared. This fact combined with the fact that the declaration is silent as to the alloy properties recited in the instant claims, the alloy in Exhibit 3 may have been made by any

method and is not necessarily an example of the appellants' alloy as claimed alloy.

Applicants' statements in the declaration regarding the purity level of the claimed alloy are also not persuasive in that all of applicants' claims are silent with respect to impurity levels. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

II. In section 9 of the declaration in the first full paragraph on page 10 of the declaration, applicants discuss the magnetic moment of the claimed alloy and state that the magnetic moment for Kakuno's alloy containing 64 % Fe is 2.2 Tesla while for applicants' alloy containing 64% Fe is 2.4 Tesla and then state the resistivity of the respective alloy films. This is not persuasive. It is not clear how applicants arrived at the stated values for the magnetic moment and resistivity. Applicants' claims are silent with respect to magnetic moment and with the exception of claim 9, are silent with respect to resistivity, so an alleged difference in these properties does not lend patentability to the claimed invention. If it is assumed that applicants meant "saturation magnetization" as is recited in the applicants' claims rather than magnetic moment, then it is the Examiner's position that, the data representing the claimed invention is based on a single example alloy containing 64 % Fe. However, appellants' claims are directed to Fe contents of 60 to 75% Fe. Thus, it is the Examiner position that a single example alloy containing 64% Fe is not commensurate in scope to the claims

that are directed to an Fe content of 60 to 75%, *In re Dill* 202 USPQ 805 and MPEP 716.02(d) and that this single data point at 64% Fe is insufficient to establish that the instantly claimed alloy has a new and unexpected saturation magnetization level. General superiority cannot be inferred from the results obtained using a single embodiment of the claimed invention, *In re Greenfield*, 197 USPQ 227, 230 and MPEP 2144.08 (B).

III. In section 10 of the declaration appellants, referring to Exhibit 4, present arguments regarding the crystal structure of the claimed CoFe alloy versus the crystal structure of Kakuno's CoFe alloy (see declaration, page 10). This discussion of Exhibit 4 is not persuasive in that the appellants' claims are silent with respect to crystal size and the impurity level of the claimed alloy. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, in view of the use of the term "probably" at page 10, line 22 of the declaration it appears that the subsequent discussion appearing in section 10 of the declaration is based on undisclosed assumptions and/or theories by the applicants. Finally, the discussion regarding crystal structure set forth in section 10 (see the last line on page 10 and the first line on page 11 of the declaration) of the declaration is based on one example of the claimed invention, an alloy containing 76 % Fe. Thus, regarding crystal structure, the declaration presents a single example of the claimed invention, an alloy containing 76 % Fe. However, appellants' claims are directed to an Fe

content range of 60 to 75% Fe. In view of the fact that the Fe content is claimed as a range of 60 to 75 % and the declaration presents only one example of the claimed invention at 76% Fe, it is the Examiner's position that the declaration is considered to be commensurate in scope to the claims, In re Dill 202 USPQ 805 and MPEP 716.02(d) and that this single data point at 76% Fe is insufficient to establish that the instantly claimed alloy has a different crystal structure than Kakuno's alloy. Further, general superiority cannot be inferred from the results obtained using a single embodiment of the claimed invention, In re Greenfield, 197 USPQ 227, 230 and MPEP 2144.08 (B).

IV. Regarding the alloy example containing 76% Fe, it should be not that in view of the word "about", used to describe the upper Fe limit, the Examiner has previously agreed with applicants that the example alloy in the declaration containing 76% Fe is encompassed by the claim language as "about 75% by weight", and that therefore there are 2 alloys (an alloy containing 64% Fe and an alloy containing 76% Fe) in the declaration that are representative of the instantly claimed invention. However, as set forth above in paragraphs II and III, in making comparisons in the declaration appellants have relied on only one or the other of these two alloys to make a specific point. For example, in section 9 of the declaration directed to magnetic moment and resistivity appellants rely on one example of their invention containing 64% Fe while in section 10 of the declaration directed to crystal structure appellants rely on one example of their invention containing 76% Fe. Thus, in attempting to establish specific facts in

this declaration appellants, in each case have relied on only one example of the claimed invention. In view of this, as has previously discussed in paragraphs II and III above, the declaration is not considered to be commensurate in scope to the claims, *In re Dill* 202 USPQ 805 and MPEP 716.02(d). Further, general superiority cannot be inferred from the results obtained using a single embodiment of the claimed invention, *In re Greenfield*, 197 USPQ 227, 230 and MPEP 2144.08 (B).

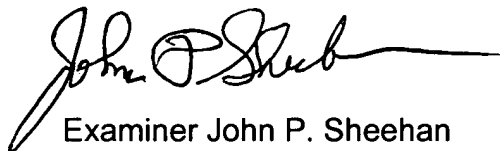
IV. Applicants' discussion in section 11 of the declaration regarding the ESCA profiles and the impurity level of the instantly claimed alloy is not persuasive. The claims are completely silent with respect to the impurity levels of the claimed alloy. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In summary, appellants, relying on the declaration, argue that the process used to make the instantly claimed alloy and the process used to make Kakuno's alloys are different and that in view of these process differences the instantly claimed alloy has different properties than the properties recited in appellants' claims. Appellants' arguments are not persuasive in that for the reasons set forth above appellants' declaration is not persuasive, therefore appellants have not provided sufficient evidence to support their arguments.

Art Unit: 1742

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Examiner John P. Sheehan

Conferees:

Roy King
SPE Art Unit 1742

Carol Chaney 
SPE Art Unit 1773


ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700